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Claims

1. A positioning system (1) for racecars (3) on a racetrack (2) with a plurality of racecars (3), with each of the racecars (3) containing a vehicle-information device (4), which comprises
a positioning device (5), which can be used to obtain and transmit positioning data relating to the position of the vehicle (3) at any time during the race, and at any location on the racetrack, and
a transmitter (6), which transmits the positioning data
and
a central unit (7), equipped with
at least one receiver (8) for receiving the transmitted positioning data,
a memory (10) to store track data (11) of the racetrack (2), and
a calculation device (9), which calculates the position of the racecars (3) on the racetrack (2) from the received positioning data of the respective racecars (3) and the stored track data (11).
2. A positioning system (1) for racecars (3) on a racetrack (2) with a first plurality of racecars (3), with each of the racecars (3) containing a vehicle-information device (4), which comprises a transmitter (6) that transmits direction-finding signals:
at least three direction-finding receivers (23), which obtain and route positioning data from the transmitted direction-finding signals, which can be used to determine the position of the respective racecar (3) at any time during the race, and at any location on the racetrack, and
a central unit (7), which is equipped with
a memory (10) to store track data (11) of the racetrack (2),

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a calculation device (9), which calculates the position of the racecars (3) on the racetrack (2) from the routed positioning data of the respective racecars (3) and from the stored track data (11).

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3. The positioning system (1) according to Claim 2, with
a second plurality of racecars (3), with each of the racecars (3) containing a vehicle-information device (4), which comprises:
a positioning device (5) for obtaining and transmitting positioning data which can be used to determine the position of the vehicle (3), and
a transmitter (6) which transmits positioning data, whereby
the central unit (7) is equipped with at least one receiver (8) for receiving the transmitted positioning data, and
the calculation device (9), which calculates the position of the racecars (3) of the second plurality on the racetrack (2) from the received positioning data from the respective racecars (3) and from the stored track data (11).
4. The positioning system (1) according to Claim 3, wherein the first and second plurality of racecars (3) wholly or partially correspond.
5. The positioning system (1) according to one of Claims 1, 3, or 4, wherein the positioning device (5) obtains the positioning data from a receiver of satellite-supported positioning data and/or a direction-finding receiver and/or a gyro sensor.
6. The positioning system (1) according to the one of the foregoing claims, wherein at least one of the racecars (3) contains at least one device (33 – 38) for obtaining vehicle operating data and/or positioning data, which are transmitted via the vehicle-information device (4) to the central unit (7).
7. The positioning system (1) according to the one of the foregoing claims, wherein the positioning and operating data can be wholly or partially encrypted when transmitted.

8. The positioning system (1) according to the one of the foregoing claims, wherein the central unit (7) comprises a transmitter (8), which transmits safety information and
at least one of the racecars (3) comprises
a receiver, which receives the safety information from the central unit (7), and
a display which, if desired, displays a warning using the safety information.
9. The positioning system (1) according to the one of the foregoing claims, with section monitors (22), whereby at least one of the section monitors (22) is equipped with
a receiver which receives safety data from the central unit, and
a display which, if desired, displays a warning using the safety information.
10. The positioning system (1) according to the one of the foregoing claims, wherein, in the event of a stopped vehicle (3X), safety data are sent from the central unit (7), which enables displaying a warning in those vehicles (3A, 3B, 3C) and to section monitors (22X) located at a given section of the track.
11. The positioning system (1) according to the one of Claims 8 - 10, wherein the safety information can be determined from the calculated position and/or the operating data of at least one of the racecars (3).
12. The positioning system (1) according to the one of the foregoing claims, with a display device (9, 11), which permits a visual display of the current position of one or more racecars (3) on the racetrack (2) using the track data (11) and the vehicle positions.
13. The positioning system (1) according to the one of the foregoing claims, with a data-processing device, which edits selected racing information contained in the positioning system and feeds them to a network in such a way that a display of

these racing data is possible with visual data-processing devices networked via the data-processing device.

14. The positioning system (1) according to Claim 13, wherein the data-processing device and the visual data-processing devices are networked via the Internet.

15. The positioning system (1) according to Claim 13 or 14, wherein the data-processing device preferably permits an interactive selection of the respective racing information to be displayed and the respective type of display by the user of the respective visual data-processing devices, and performs appropriate processing.

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